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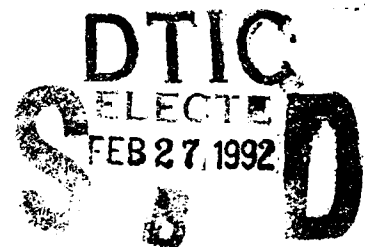
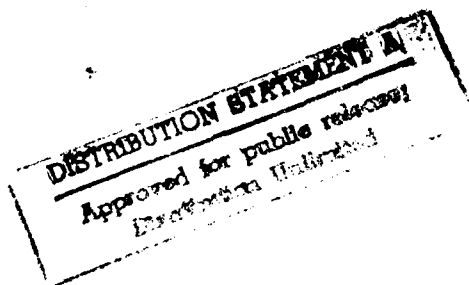


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## Comparison of Civilian and Navy Pay for Dentists

David G. Taylor



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## **Comparison of Civilian and Navy Pay for Dentists**

David G. Taylor

*Operations and Support Division*



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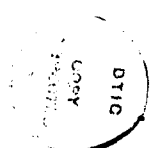
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# ABSTRACT

Dental special pays, which typically make up 15 to 20 percent of a Navy dentist's total military pay, have not been substantially increased since FY 1980. As a result, the increases in the total pay of Navy dentists have lagged behind the cost of living. At the same time, the net income of civilian dentists has increased at a faster rate than the cost of living. These two factors have led to a widening of the civilian-military pay gap. This research memorandum examines these issues.



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## EXECUTIVE SUMMARY

### INTRODUCTION

Since fiscal year 1980 (FY 1980), the total amount of dental special pay received by the majority of Navy dentists has remained essentially unchanged. This has led to concern in the Navy Dental Corps over the declining financial situation of its officers and the expectation of future difficulties in recruitment and retention. As a result of these concerns, the Surgeon General of the Navy (BUMED 00) asked CNA to analyze both of these issues. This research memorandum presents the results of an analysis that examined the financial situation of Navy dentists. A forthcoming CNA research memorandum will evaluate historical retention patterns of Navy dentists.

Dental special pays are made available to Navy dentists in addition to their regular military compensation. These special pays serve two purposes: to help attract and retain dentists, and to compensate dental officers for the specialized skills they bring to the Navy. Special pays typically make up 15 to 20 percent of a Navy dentist's total military pay and help to bridge the gap between civilian and military income.

### DENTAL SPECIAL PAYS

Currently, as dictated by the pay act of 1 October 1985, members of the Navy Dental Corps may be eligible for three types of special pay [1]: variable special pay (VSP), additional special pay (ASP), and board certified pay (BCP). Table I compares the FY 1982 and FY 1989 total special pay amounts for five representative paygrades and pay lengths of service (PLOS).

Although table I includes a column for total dental special pay including BCP, the majority of Navy dentists do not receive this pay. In FY 1989, 11 percent of the Dental Corps received BCP (40 percent of fully trained specialists receive BCP and general dentists are not eligible). The pay act of 1 October 1985, therefore, did little to increase the total amount of special pay received by the majority of Navy dentists and decreased the total amount of special pay, without BCP, for the O-5 and O-6 paygrades by \$706 and \$3,259, respectively. In addition, any dentist who is enrolled in a formal training program is not eligible for ASP under the current special pay package. Due to this requirement, the total amount of special pay for a lieutenant with over four years of creditable service for pay purposes is currently decreased by \$6,000 per year while enrolled in a residency program.

**Table I. Dental special pay totals, yearly amounts in nominal dollars, FY 1982 versus FY 1989**

Paygrade, PLOS	FY 1982 <sup>b</sup>	FY 1989 <sup>a</sup>	
		Without BCP	With BCP
O-3 under 2	1,200	1,200	3,200 <sup>c</sup>
O-3 over 4, t <sup>d</sup>	7,583	2,000	n/a <sup>e</sup>
O-3 over 4	7,583	8,000	10,000
O-4 over 14	11,870	12,000	16,000
O-5 over 20	13,706	13,000	17,000
O-6 over 26	16,259	13,000	17,000

a. VSP, ASP, and BCP if applicable.

b. Special pay for dentists and continuation pay, rounded to the nearest dollar.

c. Includes \$2,000 BCP. Only a specialist who joined the Dental Corps fully trained and boarded would be eligible for this amount.

d. The t signifies a dental officer engaged in a formal training program and not eligible for ASP.

e. In practice, Navy dentists do not enroll in a second residency.

#### DECREASE IN BUYING POWER

The cumulative increases in total pay<sup>1</sup> for five representative categories of Navy dentists were compared to the increases in the consumer price index (cost of living) for the period FY 1982 through FY 1989. For the paygrades considered in table I, the increases in total pay, excluding BCP, ranged from 23.6 percent for an O-3 under 2 to 11.6 percent for an O-6 over 26; the average increase in the cost of living was 27.5 percent. Excluding dentists in training, the more senior Dental Corps officer paygrades have received the smallest pay increases over the years considered. These small increases are due in part to the pay act of 1 October 1985, which reapportioned the dental special pay dollars among paygrades.

1. The sum of regular military compensation (RMC) and dental special pay (DSP) not including BCP. RMC contains basic pay, basic allowance for subsistence (BAS), basic allowance for quarters (BAQ), the average tax advantage, and variable housing allowance (VHA) for all officers in that paygrade.



The annual increases in basic pay, BAS, and BAQ have kept pace with the cost of living, but dental special pays are not subject to these annual increases and have not been substantially increased since FY 1980. In constant dollars, the total pay of Navy dentists has declined steadily and the buying power of a typical Navy dentist's total pay is now less than it was in 1982.

#### **SALARY GAP**

Using age as a measure of a dentist's experience level, the total pay of Navy dental officers was compared to the net income of independent dentists<sup>1</sup> reported in the American Dental Association's (ADA) annual survey. The ADA survey reports income net of business expenses and before personal taxes.

In addition to their pay, Navy dentists receive, without cost, a comprehensive package of fringe benefits. The ADA survey data, however, do not consistently include the costs of civilian fringe benefits. Due to the lack of comprehensive data on civilian benefit coverages and costs, it was not possible to uniformly adjust all of the ADA figures. The civilian-military pay gap was first calculated using the available ADA data and is followed by an estimate of the actual 1990 civilian-military pay gap adjusted to account for fringe benefits not included in the ADA data.

For all paygrades considered, the unadjusted salary gap is found to have widened over the years 1982 through 1988 and is projected to grow in 1989 through 1991.<sup>2</sup> Table II compares the 1982 and 1991 civilian-military pay gap both in nominal and constant dollars. The unadjusted dental specialists' pay gap has grown faster and is now much greater than the general dentists' pay gap.

Two methods were used to estimate the costs of civilian fringe benefits. Table III shows the civilian-military pay gap for 1990 after adjustment for the estimated costs of these civilian benefits packages. General dentists have an adjusted pay gap on the order of \$6,500, and there are still substantial pay gaps for specialists after adjusting for fringe benefits coverage.

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1. Independent dentists include sole proprietors, partners, and shareholders. No employee dentists or contractors are included in these data.

2. The 1989 through 1991 civilian salary figures were determined using a linear extrapolation of the 1982 through 1988 ADA data. These figures assume that future growth in civilian income will continue at the same rate as in past years.

Table II. Civilian-military pay gap,<sup>a</sup> in dollars

	FY 1982	FY 1991 <sup>b</sup>	FY 1991 (1982 dollars) <sup>c</sup>
Entry level <sup>d</sup>	10,442	25,370	18,737
General dentist <sup>e</sup>	12,376	27,194	20,084
Specialist 1 <sup>f</sup>	37,927	81,362	60,090
Specialist 2 <sup>g</sup>	33,572	86,229	63,685
Specialist 3 <sup>h</sup>	19,289	72,540	53,575

a. Not adjusted for civilian fringe benefit costs.

b. Civilian data projected for 1991 using a linear extrapolation of 1982 through 1988 civilian income data.

c. Using a 35.4-percent projected increase in the CPI, 1991 value projected based on the CPI trends for 1982 through 1989.

d. Mean income of civilian general dentists (age range less than 30) minus total pay of an O-3 PLOS under 2.

e. Mean income of civilian general dentists (age range 30-34) minus total pay of an O-3 PLOS over 4 (average age 31).

f. Mean income of civilian specialists (age range 35-39) minus total pay of an O-4 PLOS over 14 (average age 38).

g. Mean income of civilian specialists (age range 40-44) minus total pay of an O-5 PLOS over 20 (average age 43).

h. Mean income of civilian specialists (age range 45-49) minus total pay of an O-6 PLOS over 26 (average age 49).

Table III. 1990 civilian-military pay gap, in dollars, after adjustment for the cost of civilian fringe benefits

	Method 1 <sup>a</sup>	Method 2 <sup>b</sup>
Entry level	6,987	6,277
General dentist	5,609	7,272
Specialist 1	53,384	60,549
Specialist 2	54,235	62,917
Specialist 3	41,675	50,456

a. Uses Employee Benefits Survey, 1989 edition, table 4b: Salaried Employees 1988, employer share only of fringe benefits.

b. Family health insurance, minimal accidental death and dismemberment, life, long-term disability, self-employment tax: business share, and 15 percent Keogh retirement.

## CONCLUSION

Dental special pay rates have remained essentially unchanged since FY 1980, which has caused the increases in total pay received by the majority of Navy dentists to lag behind the cost of living. At the same time, the net income of civilian dentists has increased at a rate almost twice that of the cost of living. These two factors have led to a widening of the civilian-military pay gap.

The civilian data used to calculate the pay gap, however, do not account consistently for the cost of fringe benefits. After adjustment for fringe benefit costs, the pay gap for general dentists ranges from \$5,609 to \$7,272; the pay gap for specialists, although smaller than the unadjusted gap, is still quite large, ranging from \$41,675 to \$62,917.

## CONTENTS

	Page
Tables .....	xiii
Introduction .....	1
Dental Special Pays .....	4
Decrease in Buying Power .....	6
Compensation Equity .....	8
Conclusion .....	13
References .....	15
Appendix A: Navy Dental Corps Personnel and Special Pay Distributions .....	A-1 - A-2
Appendix B: Civilian and Military Dentists' Pay .....	B-1 - B-3
Appendix C: Adjusted Salary Gap .....	C-1 - C-4

# TABLES

	Page
1 1989 Dental Corps Demographic Data .....	1
2 Dental Special Pays, Yearly Amounts in Dollars .....	4
3 Dental Special Pay Totals, in Dollars, FY 1982 Versus FY 1989 .....	5
4 Increases in Cost of Living and Pay, FY 1982 to FY 1989 .....	6
5 Increase in the Total Pay of Navy Dentists, FY 1982 to FY 1989 .....	7
6 Total Pay of Navy Dentists as a Percentage of the Mean Net Income of Civilian Dentists .....	9
7 Civilian-Military Pay Gap, in Dollars .....	10
8 1990 Civilian-Military Pay Gap, in Dollars, After Adjustment for the Cost of Civilian Fringe Benefits .....	12

## INTRODUCTION

The total amount of special pay received by each Navy dentist, which can typically make up 15 to 20 percent of a Navy dentist's total pay, has remained essentially unchanged since 1980. As a result, the financial outlook for Navy dentists has grown steadily worse over the last ten years. The Navy Dental Corps is particularly concerned by these developments and expects future difficulties in recruitment and retention. The Surgeon General of the Navy (BUMED 00) asked CNA to explore these issues. This research memorandum examines the impact of the unchanged dental special pays on the financial situation of Navy dentists from 1982 through 1989. Two specific indicators are considered: the buying power of a Navy dentist's total compensation and the civilian-military pay gap. The retention rates of Navy dentists and the effect of pay on retention will be presented in a future research memorandum.

Rather than focusing on the pay of an individual dentist, this analysis uses five representative paygrades and pay lengths of service (PLOS). Use of these five paygrades allows the variations in pay from year to year to be analyzed at well-defined points in the career of Navy dentists. One paygrade was chosen for each of the ranks common to the Dental Corps, lieutenant through captain. PLOS, which is used for pay purposes, is different from the length of service (LOS) for retirement purposes. The PLOS used for each of the four paygrades shown in table 1 is the mean PLOS for all dentists, general and specialist, in that paygrade. In addition to the four paygrades shown in table 1, an entry-level paygrade of O-3 with a PLOS less than 2 is also included in this analysis.

Table 1. 1989 Dental Corps demographic data

Paygrade	Percent of Dental Corps in paygrade	Average LOS (yr)	Average PLOS (yr)	Average age (yr)
O-3	44	3.0	4.5	30.9
O-4	27	9.7	14.2	37.8
O-5	18	15.8	20.7	43.0
O-6	11	21.8	27.0	48.7

Before the Defense Officer Personnel Management Act (DOPMA) was passed in FY 1981, dentists entering the military were awarded four

years of constructive service credit. As a result, a pre-DOPMA dentist began active duty at the paygrade O-3 with a PLOS of 4 and a LOS of zero. The pre-DOPMA constructive service credits are still evident in table 1 for the paygrades O-4 through O-6. As the remaining pre-DOPMA officers leave the Dental Corps, the average value of PLOS will approach LOS.<sup>1</sup> The loss of the four years constructive service credit with the passage of DOPMA is of great concern to the Dental Corps as it effectively reduced the pay length of service for all post-DOPMA dentists.

This analysis next compares the cumulative increases in the representative Navy dentist's total pay from 1982 through 1989 to the increase in the cost of living and to the annual military pay increases. Also shown are the increases in income, over the same time period, for civilian general dentists and specialists.

Finally, using age as a measure of experience, this analysis compares the total pay of Navy dentists to the income of their civilian peers. The civilian-military pay gap from 1982 through 1991 is computed for two categories of general dentists and three categories of specialists. The pay gaps calculated from the available income data do not account consistently for the costs of civilian fringe benefits. Two estimates are made for the costs of these benefits and are used to adjust the 1990 pay gaps.

Civilian income data were taken from the American Dental Association's Annual Survey of Dental Practice: Income from the Private Practice of Dentistry, 1983 through 1989. The ADA figures used in this analysis are the mean net income, after business expenses and before personal taxes, of independent dentists.<sup>2</sup> Independent dentists are either full or part owners of a dental practice and include sole proprietors, partners, and shareholders.

The survey data for independent dentists, although representing the best data available for the civilian sector, may somewhat overestimate the net income of civilian dentists by excluding nonowner dentists. The 1989 ADA survey reports that the mean net income of independent general dentists was \$79,850, and that the mean net income of nonowner general dentists was \$48,320. However, the 1989 ADA survey states that 91.7 percent of dentists who were in private practice as a primary occupation

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1. Dental students who enter the Navy through the 1925I program are presently awarded some constructive service credit.

2. The median salary, which is less sensitive to extreme highs and lows, was not reported consistently by the ADA. In those cases where both the mean and median were provided, the mean was consistently higher than the median and may overestimate the income of the typical independent dentist.

were independent dentists, and only 8.3 percent were nonowner dentists. The ADA net income data probably make the greatest overestimate for dentists in their first year of practice, the majority of whom are not independent.<sup>1</sup>

---

1. The 1990 Survey of Dental Seniors from the American Association of Dental Schools indicated that only 29 percent of 1990 dental school graduates who planned to practice dentistry immediately upon graduation would do so as independent dentists.



## DENTAL SPECIAL PAYS

Navy dentists can receive up to three dental special pays in addition to regular military compensation (RMC).<sup>1</sup> These special pays serve two purposes: to help attract and retain dentists, and to compensate dental officers for the specialized skills they bring to the Navy. Currently, both general dentists and specialists are covered by the same special pay package, which contains three types of pay--variable special pay (VSP), additional special pay (ASP), and board certified pay (BCP). The rates of these special pays, shown in table 2, are based on length of creditable service [1].

Table 2. Dental special pays, yearly amounts in dollars

Years of creditable service	VSP <sup>a</sup>	ASP	BCP	Maximum
< 3	1,200	0	2,000	3,200
3-5	2,000	6,000	2,000	10,000
6-9	4,000	6,000	2,000	12,000
10-11	6,000	6,000	2,000	14,000
12-13	6,000	6,000	3,000	15,000
14-17	4,000	8,000	4,000	16,000
18+	3,000	10,000	4,000	17,000

a. Interns receive \$1,200 VSP, and paygrades O-7 and above receive \$1,000 VSP.

VSP is a yearly entitlement that requires no contractual obligation on the part of the dental officer. VSP is paid monthly to all dental officers who will be on active duty for at least one year. ASP is an additional yearly entitlement paid to all eligible dental officers provided they sign a written agreement stating that they will remain on active duty for one year. All dental officers with at least three years of creditable service who are not enrolled in any formal training program (i.e., residency) are eligible for ASP. In addition to VSP and ASP, all specialists who are board certified receive BCP. BCP is a yearly entitlement that requires no obligation on the part of the dentist.

1. RMC includes basic pay, basic allowance for subsistence (BAS), basic allowance for quarters (BAQ), variable housing allowance (VHA), and a tax advantage.

Since FY 1980, no significant increase has occurred in the total amount of special pay received by Navy dentists. The present dental special pay package, which came into effect 1 October 1985 [1], canceled the two existing special pays--continuation pay and special pay for dentists--and replaced them with the package described above.<sup>1</sup> This restructuring made the dental special pay package similar to medical special pays, which had contained VSP, ASP, and BCP since FY 1980.<sup>2</sup> Table 3 compares the FY 1982 (FY 1980 package) dental special pay totals for each of the five representative paygrades to the dental special pay totals for FY 1989 (FY 1986 package).

Table 3. Dental special pay totals, in dollars,  
FY 1982 versus FY 1989

Paygrade, PLOS	FY 1982 <sup>b</sup>	FY 1989 <sup>a</sup>	
		Without BCP	With BCP
O-3 under 2	1,200	1,200	3,200 <sup>c</sup>
O-3 over 4, t <sup>d</sup>	7,583	2,000	n/a <sup>e</sup>
O-3 over 4	7,583	8,000	10,000
O-4 over 14	11,870	12,000	16,000
O-5 over 20	13,706	13,000	17,000
O-6 over 26	16,259	13,000	17,000

a. VSP, ASP, and BCP if applicable.

b. Special pay for dentists and continuation pay, rounded to the nearest dollar.

c. Includes \$2,000 BCP. Only a specialist who joined the Dental Corps fully trained and boarded would be eligible for this amount.

d. The t signifies a dental officer engaged in a formal training program and not eligible for ASP.

e. In practice, Navy dentists do not complete two residencies.

1. The pay act contained a saved pay clause that guaranteed that no dental officer suffered an immediate cut in pay. Saved pay was used to make up any decrease in the total amount of special pay for a dentist's current paygrade. With promotion, the new special pays applied.

2. In addition to VSP, ASP, and BCP, the medical pay package contains a fourth special pay--incentive special pay (ISP). Certain specialists are also eligible for the medical officer retention bonus (MORB). The rates of ISP and MORB vary with medical specialty and are highest for those specialties that are deemed critical.

The majority of Navy dentists do not receive BCP. In 1989, 11 percent of Navy dentists received BCP (40 percent of fully trained specialists received BCP and general dentists are not eligible) [2] (see appendix A). As table 3 shows, the pay act of 1 October 1985 decreased the total special pay amounts for dentists without BCP, for the higher paygrades and increased the amounts for the lower paygrades. For example, the total special pay, without BCP, for a lieutenant with over 4 years of service was increased by \$417; that for a captain with over 26 years was decreased by \$3,259.

The greatest single decrease in special pay is the loss of ASP for a dentist who is enrolled in a formal training program. As a comparison of the second and third rows in table 3 shows, a lieutenant with over 4 years of experience who begins a residency suffers a yearly cut in dental special pay of \$6,000 under the present special pay package versus no cut under the previous package. This is a cut of 75 percent of the total special pay that same dentist receives while not in a residency program.

#### DECREASE IN BUYING POWER

Although the dental special pay dollar amounts for the five representative paygrades have changed only slightly since FY 1982, the cost of living has been steadily increasing. Table 4 compares the consumer price index to three relevant salary indices.

Table 4. Increases in cost of living and pay,  
FY 1982 to FY 1989

	Percent increase
Cost of living (CPI-W) <sup>a</sup>	26.5
Annual military pay increases <sup>b</sup>	26.7
Civilian dentists mean income <sup>c</sup>	
General dentists	48.1
Specialists	50.9
<p>a. Detailed CPI reports, calendar year figures.</p> <p>b. Increases in basic pay, BAS, and BAQ. Pay year figures.</p> <p>c. American Dental Association annual salary surveys, mean net income of independent dentists. Calendar year figures. 1989 value projected using a linear extrapolation of the 1982-1988 data.</p>	

From FY 1982 through FY 1989, CPI-W,<sup>1</sup> the consumer price index for urban wage earners and clerical workers, increased by 26.5 percent [3]. The annual military pay increases have kept pace with the cost of living, increasing 26.7 percent over the same time period [4]. Dental special pays, however, which typically make up 15 to 20 percent of a Navy dentist's total pay, have not been subject to any of the annual military pay increases. The total pay of Navy dentists [5], therefore, has increased at a slower rate than the annual military pay increases and has not kept up with the cost of living, as is shown in table 5.

Table 5. Increases in the total pay<sup>a</sup> of Navy dentists, FY 1982 to FY 1989

Paygrade, PLOS	Percent increase	
	Without BCP	With BCP
0-3 under 2	23.6	31.2
0-3 over 4 t	4.2	n/a <sup>b</sup>
0-3 over 4	19.8	25.0
0-4 over 14	17.6	25.2
0-5 over 20	16.9	23.2
0-6 over 26	11.6	16.7

a. Selected military compensation tables, OASD (FM&P).

b. In practice, Navy dentists do not enroll in a second residency.

Putting aside the dentist who is in training, the more senior paygrades have received the smallest increases in pay. For example, the total pay of the Dental Corps 0-6 paygrade a PLOS with over 26 has increased 16.7 percent including BCP, and only 11.6 percent without BCP. These increases are 10.8 and 15.9 percentage points less than the average increase in the consumer price index.

The shortfalls in the increases of the total pay of Navy dentists are a direct result of two factors. First, the lack of increase in dental special pay since FY 1980 has caused the increases in the total pay of the majority of Navy dentists to lag behind the cost of living. Second, the pay act of 1 October 1985 redistributed the special pay dollars among the paygrades, resulting in smaller increases in total compensation for paygrades 0-5 and 0-6 compared to grades 0-3 and 0-4.

1. CPI-U, the consumer price index for urban consumers, increased 28.5 percent over the same time period.

Allowing Navy dentists' total pay to increase at a slower rate than the cost of living has caused a decrease in the relative buying power. In constant dollars, representative Navy dentists were paid less in FY 1989 than they were in FY 1982. Without increases in the special pay rates, the buying power of Navy dentists is likely to continue to fall as the increases in their total pay lag behind the cost of living.

#### COMPENSATION EQUITY

Table 4 also shows that from FY 1982 through FY 1989<sup>1</sup> the mean income of both civilian general dentists and specialists increased at a faster rate than the cost of living, rising 48 percent and 51 percent, respectively [6]. These large civilian increases, combined with the small increases in the pay of Navy dentists, have caused a widening of the civilian-military pay gap.<sup>2</sup>

The ADA net income figures for independent dentists do not consistently include the costs of civilian fringe benefits for incorporated and unincorporated dentists. Because of the wide variability in civilian benefit coverages and the difficulty in determining the costs of these benefits for civilian dentists, it was not possible to correct the ADA data uniformly. The first part of this section calculates the salary gap using the reported ADA figures; the second part of this section estimates the 1990 adjusted civilian-military pay gap.

To compare Navy and civilian dentists' incomes quantitatively, the age of each of the five paygrades has been included as a measure of experience. Demographic data show that, in 1990, over 60 percent of Navy general dentists were lieutenants. For general dentists, therefore, the total pay of an O-3 PLOS over 4, average age 31, is compared with the mean net income of civilian general dentists in the age range 30 to 34, as shown in table 6. The entry-level paygrade, O-3 PLOS under 2, is compared to the mean net income of general dentists under 30. The Navy specialists, on the other hand, were fairly evenly distributed over the three remaining officer paygrades. Three Navy specialists are considered: (1) O-4 PLOS over 14, average age 38, (2) O-5 PLOS over 20, average age 43, and (3) O-6 PLOS over 26, average age 49. In table 6, the total pay of these three paygrades is compared with the mean net incomes of civilian specialists in the appropriate age ranges. The Navy pay values used do not contain BCP (see appendix B).

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1. The ADA survey data, available for 1982 through 1988, have been linearly extrapolated to estimate civilian income for 1989 through 1991. This projection is based on the assumption that the linear growth in civilian dental income seen for 1982 through 1988 will continue in the near future.

2. An attempt was made to determine the pay gap for individual specialty groups; however, reliable civilian income information by specialty was not available.

The majority of the Navy Dental Corps does not receive this pay, which adds a maximum of \$4,000 to the total pay of qualified Navy specialists.

Table 6. Total pay<sup>a</sup> of Navy dentists as a percentage of the mean net income<sup>b</sup> of civilian dentists<sup>c</sup>

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Entry level

0-3 PLOS under 2, civilian general dentists age less than 30  
1982 71 percent  
1991 58 percent

General dentists

0-3 PLOS over 4, average age 31, civilian general dentists age range 30-34  
1982 76 percent  
1991 64 percent

Specialists

1. 0-4 PLOS over 14, average age 38, civilian specialists age range 35-39  
1982 58 percent  
1991 45 percent
2. 0-5 PLOS over 20, average age 43, civilian specialists age range 40-44  
1982 65 percent  
1991 48 percent
3. 0-6 PLOS over 26, average age 49, civilian specialists age range 45-49  
1982 80 percent  
1991 56 percent

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- a. Without BCP. In 1989, only 11 percent of the Dental Corps received BCP (40 percent of fully trained specialists received BCP, and general dentists are ineligible).
  - b. After business expenses and before personal taxes. American Dental Association annual income surveys 1982-1989. Not adjusted for the cost of civilian fringe benefits.
  - c. Civilian income projected for 1991, using a linear extrapolation of the 1982 through 1988 income for each age range.
-

The percentages of civilian income for the five paygrades compared in table 6 have been decreasing since FY 1982 and are projected to decrease further in FY 1991. Although the general dentists have fared the best, hardest hit have been the three representative specialists, particularly the higher paygrades. A Navy specialist who is a captain with over 26 years of creditable service for pay purposes received 80 percent of the comparable civilian salary in FY 1982. By FY 1991, that paygrade is expected to receive only 56 percent of the civilian specialist income, a decrease of 24 percentage points. The two other specialist paygrades started with a larger pay gap in FY 1982, and by FY 1991 both are expected to be paid less than half the income of their civilian peers.

Figure 1 shows the unadjusted civilian-military pay gap for each of the five representative dentists. The pay gap of the three specialists is both of greater magnitude and increasing at a faster rate than that of the general dentists. In table 7, the dollar amounts of the 1991 pay gaps, both nominal and constant, are compared to the 1982 amounts. The pay gap of specialist 2 is projected to have grown to \$86,229 by FY 1991, or \$63,685 in constant dollars.

Table 7. Civilian-military pay gap,<sup>a</sup> in dollars

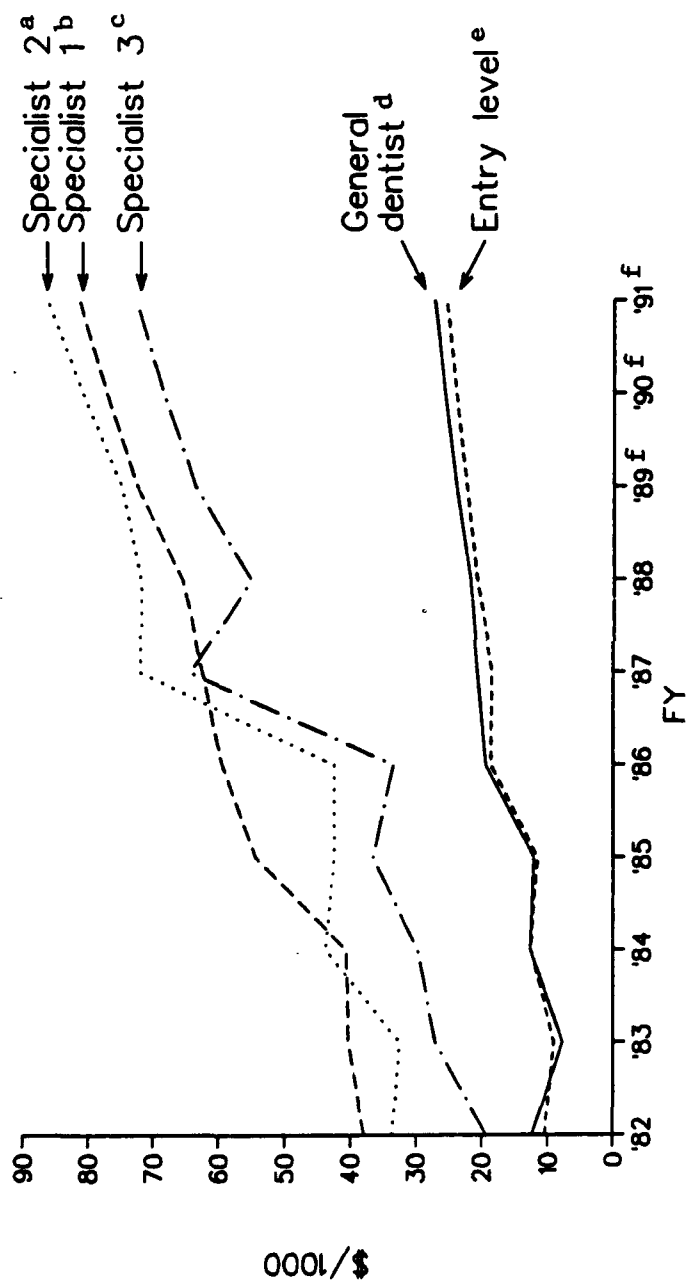
	FY 1982	FY 1991 <sup>b</sup>	FY 1991 ('82 dollars) <sup>c</sup>
Entry level	10,442	25,370	18,737
General dentist	12,376	27,194	20,084
Specialist 1	37,927	81,362	60,090
Specialist 2	33,572	86,229	63,685
Specialist 3	19,289	72,540	53,575

a. Not adjusted for the cost of civilian fringe benefits.

b. Civilian data projected for 1991 using a linear extrapolation of civilian income growth for 1982 through 1988.

c. Using a 35.4-percent projected increase in the CPI, 1991 value projected based on the CPI trends for 1982 through 1989.

Although Navy dentists receive a comprehensive package of fringe benefits, the costs for a comparable civilian benefits package are not treated consistently by the ADA survey. The costs of fringe benefits for incorporated dentists can be deducted as business expenses and are



- a. Mean income of civilian specialists (age range 40-44) minus total pay of an O-5 PLOS over 20 (average age 43).
- b. Mean income of civilian specialists (age range 35-39) minus total pay of an O-4 PLOS over 14 (average age 38).
- c. Mean income of civilian specialists (age range 45-49) minus total pay of an O-6 PLOS over 16 (average age 49).
- d. Mean income of civilian general dentists (age range 30-34) minus total income of an O-3 PLOS over 4 (average age 31).
- e. Mean income of civilian general dentists (age range under 30) minus total pay of an O-3 PLOS under 2.
- f. Civilian salaries projected using a linear extrapolation of the 1982 through 1988 data.

Figure 1. Civilian-military pay gap (not adjusted for the cost of civilian fringe benefits)



already excluded from the ADA figures. Unincorporated dentists, on the other hand, cannot deduct these benefits as business expenses, and the ADA figures must be adjusted to reflect their costs. This adjustment is needed to provide a more accurate comparison between the civilian and military income data. Civilian dentists have a great deal of flexibility in the selection of a benefits package, and this flexibility makes an accurate calculation of the costs of these benefits difficult. It is not possible, given the available data, to consistently adjust all of the calculated pay gaps. Instead, two example civilian benefit packages were constructed for 1990 (see appendix C). The adjusted pay gaps for 1990 are shown in table 8.

**Table 8. 1990 civilian-military pay gap, in dollars, after adjustment for the cost of civilian fringe benefits**

	Method 1 <sup>a</sup>	Method 2 <sup>b</sup>
Entry level	6,987	6,277
General dentist	5,609	7,272
Specialist 1	53,384	60,549
Specialist 2	54,235	62,917
Specialist 3	41,675	50,456

a. Uses Employee Benefits Survey, 1989 edition, table 4b: Salaried Employees 1988, employer share only of fringe benefits.

b. Family health insurance, minimal ADD, life, long-term disability, self-employment tax: business share, and 15 percent Keogh retirement.

Although both of these methods required a number of assumptions, together they determine a range for the adjusted pay gaps. The adjusted pay gap for general dentists ranges from \$5,609 to \$7,272; the adjusted pay gap for specialists is fairly large, ranging from \$41,675 to \$62,917. The true pay gap is difficult to measure accurately because of the lack of information about civilian dentists' self-coverage decisions for fringe benefits. Additionally, these comparisons are necessarily imprecise because Navy dentists have no choice in their level of benefits coverage; civilian dentists can choose from no coverage to full coverage, based on personal considerations.

## CONCLUSION

The total amount of special pay received by the majority of Navy dentists has remained essentially unchanged since FY 1980. As a result, from 1982 through 1989, the total pay of each of the five representative Dental Corps paygrades increased at a slower rate than the cost of living. The two most senior paygrades, O-5 over 20 and O-6 over 26, received the smallest increases in pay. Over the same time period, the net income of both civilian general dentists and specialists increased at a rate almost twice that of the increase in the cost of living.

The large pay increases in the civilian sector, combined with the small increases in total pay received by Navy dentists, has led to a widening of the civilian-military pay gap. The pay gap, calculated from 1982 through 1991 using the available data, has widened moderately for general dentists and increased more sharply for specialists. However, this pay gap calculation may not reflect the true civilian-military pay gap, as civilian fringe benefits are not treated consistently by the ADA survey. The wide variability in civilian benefits coverage and reporting methods did not facilitate a complete recalculation of the pay gap, but two tentative estimates of the 1990 adjusted pay gap were made.

The ADA data were adjusted using two estimated civilian fringe benefits packages, and the 1990 pay gaps were recalculated. This calculation revealed two general features: the adjusted pay gap for general dentists ranges from \$5,609 to \$7,272; the adjusted pay gap for specialists, although smaller than the unadjusted gap, is still large, ranging from \$41,675 to \$62,917.

#### REFERENCES

- [1] Office of the Secretary of Defense, *Military Compensation Background Papers*, third edition, 1987
- [2] Bureau of Medicine and Surgery, *Bureau of Medicine Information System (BUMIS)*, 1989
- [3] *Consumer Price Index Detailed Reports, 1982 Through 1989*
- [4] Navy Accounting and Finance, *Military Annual Pay Increases Since 1946*, Aug 1990
- [5] Office of the Assistant Secretary of Defense (FM&P), Directorate of Compensation, *Selected Military Compensation Tables, 1982 through 1989*
- [6] American Dental Association, *Annual Salary Reports, 1983 through 1989*

**APPENDIX A**

**NAVY DENTAL CORPS PERSONNEL AND  
SPECIAL PAY DISTRIBUTIONS**

# APPENDIX A

## NAVY DENTAL CORPS PERSONNEL AND SPECIAL PAY DISTRIBUTIONS

Table A-1. Dental Corps personnel, by subspecialty

Subspecialty code	Type of dentist	Training <sup>a</sup>	Fully trained	Total
General dentists				
1700 <sup>b</sup>	Military dentist	22	1,112	1,134
Specialists				
1710	Endodontist	11	57	68
1720	Dental educ & prog	0	3	3
1725	Comprehensive dentist	15	77	92
1730	Maxillofacial prosth	0	9	9
1735	Orthodontist	0	14	14
1740	Operative dentist	1	18	19
1745	Oral diagnostician	2	18	20
1750	Oral surgeon	27	86	113
1760	Periodontist	13	68	81
1769	Prosthodontist	9	88	97
1775	Public hlth prev dent	0	13	13
1780	Oral pathologist	1	9	10
1790	Dental research	0	1	1
1795	Pediatric dentist	0	11	11
Sub total (specialists)		79	472	551
Total		101	1,584	1,685

SOURCE: Bureau of Medicine Information System (BUMIS) data extract,  
1989.

a. Subspecialty suffix T.

b. Includes all dentists with subspecialty suffix S.

**Table A-2. Total number of Navy dentists receiving each special pay, by subspecialty**

Subspecialty code	VSP <sup>a</sup>	ASP <sup>b</sup>	BCP
<b>General dentists</b>			
1700 <sup>c</sup>	1,134	668	0 <sup>d</sup>
<b>Specialists</b>			
1710	68	56	30
1720	3	3	0
1725	92	77	34
1730	9	9	3
1735	14	13	1
1740	19	18	7
1745	20	18	12
1750	113	79	49
1760	81	63	24
1769	97	82	18
1775	13	13	1
1780	10	8	9
1790	1	1	1
1795	11	7	0
Sub total (specialists)	551	447	189
<b>Total</b>	<b>1,685</b>	<b>1,115</b>	<b>189</b>

**SOURCE:** Bureau of Medicine Information System (BUMIS) and Joint Uniform Military Pay System (JUMPS) data extract, 1989.

- a. The BUMIS and JUMPS data on VSP were incomplete, and it was assumed that all dentists received VSP.
- b. Dentists in training are not eligible for ASP.
- c. Includes all dentists with subspecialty suffix S.
- d. General dentists are not eligible for BCP.

**APPENDIX B**

**CIVILIAN AND MILITARY DENTISTS' PAY**

## APPENDIX B

### CIVILIAN AND MILITARY DENTISTS' PAY

Table B-1. Civilian dentists' income<sup>a</sup>

Calendar year	Type of dentist (age range)				
	General dentist (< 30)	General dentist (30-34)	Specialist 1 (35-39)	Specialist 2 (40-44)	Specialist 3 (45-49)
1982	36,700	50,950	90,370	97,060	97,390
1983	36,490	47,690	94,300	97,690	107,090
1984	40,480	53,150	95,390	109,670	110,660
1985	40,760	54,260	111,440	111,050	120,520
1986	48,650	62,970	118,070	112,060	116,400
1987	49,110	64,735	121,685	142,250	148,490
1988	51,970	66,500	125,300	143,340	139,520
1989 <sup>b</sup>	54,769	70,116	134,114	149,067	150,714
1990 <sup>b</sup>	57,598	73,351	140,662	157,294	158,390
1991 <sup>b</sup>	60,427	76,585	147,131	165,521	166,066

SOURCE: ADA Survey of Dental Practice, *Income from the Private Practice of Dentistry*, 1983-1989

- a. Mean net income of independent dentists, after business expenses and before personal taxes. The wide fluctuations in income seen for some of the groups may be due in part to changes in the income distributions of the dentists within each population.
- b. 1989 through 1991 figures projected for each column using a linear extrapolation of the 1982 through 1988 data. Assumes continued linear growth in income for civilian dentists



Table B-2. Military pay<sup>a</sup>

Fiscal year	Paygrade, pay length of service				
	0-3 under 2	0-3 over 4	0-4 over 14	0-5 over 20	0-6 over 26
1982	25,058	30,991	40,572	49,781	61,843
1983	26,167	32,269	42,084	51,447	63,743
1984	26,725	32,905	42,896	52,225	64,662
1985	27,971	34,516	45,192	54,878	67,807
1986	28,872	35,610	46,618	56,624	69,962
1987	29,469	36,065	47,243	57,382	71,178
1988	29,977	36,670	47,680	58,405	71,389
1989	31,251	38,214	49,654	61,198	74,158
1990	32,474	39,704	51,525	63,497	76,968
1991	33,857	41,391	53,769	66,292	80,526

SOURCE: Office of the Assistant Secretary of Defense (FM&P), Directorate of Compensation, *Selected Military Compensation Tables*, FY 1982-1991

a. Sum of basic pay, basic allowance for subsistence, basic allowance for quarters, and the average tax advantage and average variable housing allowance for all officers in that paygrade (all pays using values with dependents, when available).

**Table B-3. Dental special pays**

Paygrade, pay length of service	FY 1982- FY 1985 <sup>a</sup>	FY 1986- FY 1991 <sup>b</sup>
O-3, under 2	1,200	1,200
O-3, over 4	7,583	8,000
O-4, over 14	11,870	12,000
O-5, over 20	13,706	13,000
O-6, over 26	16,259	13,000

SOURCE: Office of the Secretary of Defense,  
*Military Compensation Background  
Papers*, 3rd edition, Jun 1987

a. Continuation pay and special pay for  
dentists.

b. Variable special pay and additional special  
pay. Does not include BCP.

**Table B-4. Navy dentists' total pay<sup>a</sup>**

Fiscal year	Paygrade, pay length of service				
	O-3 under 2	O-3 over 4 <sup>b</sup>	O-4 over 14	O-5 over 20	O-6 over 26
1982	26,258	38,574	52,443	63,488	78,101
1983	27,367	39,852	53,954	65,154	80,001
1984	27,925	40,488	54,767	65,931	80,921
1985	29,171	42,099	57,062	68,585	84,066
1986	30,072	43,610	58,618	69,624	82,962
1987	30,669	44,065	59,243	70,382	84,178
1988	31,177	44,670	59,680	71,405	84,389
1989	32,451	46,214	61,654	74,198	87,158
1990	33,674	47,704	63,525	76,497	89,968
1991	35,057	49,391	65,769	79,292	93,526

a. Sum of tables B-2 and B-3.

b. O-3, over 4t would receive \$6,000 less per year for FY 1986 through  
FY 1991.

**APPENDIX C**  
**ADJUSTED SALARY GAP**

## APPENDIX C

### ADJUSTED SALARY GAP

The ADA survey of dental income does not consistently include the costs of fringe benefits for incorporated and unincorporated dentists. The net income reported to the ADA by incorporated dentists, who can deduct fringe benefits as business expenses, is generally comparable to the total pay of Navy dentists. Dentists who are unincorporated, however, cannot deduct fringe benefits as business expenses, and, therefore, the income they report to the ADA requires adjustment for their cost.

Comprehensive data were not available on civilian benefit costs and coverages, and it was not possible to correct the entire set of ADA survey data. Instead, two conservative civilian benefits packages were constructed for 1990, and the estimated costs of these packages were subtracted from the ADA survey results (see table C-1).

The first method uses the results of a survey of benefit costs for salaried employees in nonmanufacturing industries.<sup>1</sup> The figures used are the employer contributions that yield a total cost for the package of 32.6 percent of net income.<sup>2</sup> The second method uses estimates for the costs of family health insurance, life insurance, accidental death and dismemberment, long-term disability, self-employment tax, and retirement savings.<sup>3</sup> Vacation time and sick leave are not included in method 2. The total cost for method 2 is \$10,924, plus 15 percent of net income.

A weighted average of the adjusted income figures for unincorporated dentists and the reported ADA income for incorporated dentists was calculated. The weights, taken from the 1989 ADA Survey of Dental Practice, are shown in table C-2, and the adjusted income is shown in table C-3.

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1. Taken from U.S. Chamber Research Center, *Employee Benefits*, 1989.

2. Employers share of FICA (1990 rate) 7.65 percent; retirement savings 6.1 percent; life insurance and death benefits 0.8 percent; medical insurance 6.0 percent; vacation, holiday, and sick leave 12.0 percent.

3. Family health insurance \$6,000; self-employment tax \$3,924; ADD, life insurance, and long term disability \$1,000; keogh retirement 15 percent of net income.

**Table C-1. 1990 independent unincorporated dentists' net income, in dollars, adjusted for the cost of fringe benefits**

	ADA net income <sup>a</sup>	Adjusted method 1 <sup>b</sup>	Adjusted method 2 <sup>c</sup>
Entry level	57,598	38,821	38,034
General dentist	73,351	49,439	51,424
Specialist 1	140,662	94,806	108,639
Specialist 2	157,294	106,016	122,776
Specialist 3	158,390	106,755	123,707

a. Appendix B, table B-1.

b. Uses Employee Benefits Survey, 1989 edition, table 4b: Salaried Employees 1988, employer share only of fringe benefits.

c. Family health insurance, minimal ADD, life, long-term disability, self-employment tax: business share, and 15 percent Keogh retirement.

**Table C-2. Percentage of incorporated and unincorporated independent civilian dentists<sup>a</sup>**

	Percent incorporated	Percent unincorporated <sup>b</sup>
Entry level <sup>c</sup>	9.8	90.2
General dentist <sup>d</sup>	16.2	83.8
Specialist 1 <sup>e</sup>	48.2	51.8
Specialist 2	48.2	51.8
Specialist 3	48.2	51.8

a. 1989 ADA survey of Dental Practice.

b. Sole proprietors and dentists in partnerships.

c. Percentages cited are for all independent dentists who are less than 30 years of age; 98 percent of this group are general dentists, and these percentages should accurately estimate the percentage of incorporated general dentists in this age range.

d. Percentages cited are for all independent dentists who are in the age range 30-34; 18 percent of this group are specialists, and the percentages cited may overestimate the fraction of incorporated general dentists in this age range.

e. Percentages cited are for all independent specialists. Incorporated specialists have a mean age of 47, which implies that the fraction of incorporated specialists for the younger age ranges may be less than 48.2 percent.

**Table C-3. 1990 net income of independent dentists, in dollars, adjusted for the costs of civilian fringe benefits<sup>a</sup>**

	Adjusted method 1	Adjusted method 2
Entry level	40,661	39,951
General dentists	53,313	54,976
Specialist 1	116,909	124,074
Specialist 2	130,732	139,414
Specialist 3	131,643	140,424

**a. Weighted average of the unadjusted ADA income for incorporated dentists and the adjusted ADA income for unincorporated dentists.**